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EXAMINER
MARANDI, JAMES R

ART UNIT	PAPER NUMBER
2421	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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	Application No.	Applicant(s)
Office Action Summary	10/814,702	HULL ET AL.
	Examiner	Art Unit	
	JAMES R. MARANDI	2421	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>29 January 2009</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-9,11-14,16-18,20-34 and 36-39</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-9,11-14,16-18,20-34 and 36-39</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

       1.☐ Certified copies of the priority documents have been received.

       2.☐ Certified copies of the priority documents have been received in Application No. _____.

       3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>1/5/09, 4/16/09, and 4/16/09</u>.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail. Date. _____

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 1/5/09, 4/16/09, and
4/16/09 was filed after the mailing date of the first office action on 10/30/08. The
submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the
information disclosure statement is being considered by the examiner.

2. Applicant's disclosure that this application is a continuation-in-part application of
parent applications, U.S. Patent Application Nos. 10/001,895, 10/001,849,
10/001,893, 10/001,894, 10/001,891, 10/175,540, 10/645,821, 10/081,129,
10/701,966, 10/465,027, and 10/174,522 has been considered and corresponding
submitted IDSs have been duly noted.

Response to Amendment

3. This action is in response to applicant's amendment filed on 1/29/09. Claims 1-9, 11-

   14, 16-18, 20-34, and 36-39 are presently pending. Claims 10, 15, 19, and 35 have

   been cancelled.

4. In view of applicants' submission:

   - Objections to disclosure due to minor informalities is withdrawn
   - Objection to claim 13 for lack of antecedent basis is withdrawn

Response to Arguments

5. Applicant's arguments with respect to claims 1-9, 11-14, 16-18, 20-34, and 36- 39

   have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over S.

Aratani, USPN 7,260,828 (hereinafter "Aratani") in view of H. Hoda et al., USPN

4,831,610 (hereinafter "Hoda").

7.1. Regarding claim 1, Aratani discloses **A printer** (Abstract, Fig. 1) **for generating

media representations of a collection of media programs received from a

media receiver** (media received at antenna, or cable through 101, or from

Internet at 121**), the printer comprising** (it is noted that Aratani discloses a data

processing apparatus with multiple functions, a television with printer

capabilities, or a printer with ability to provide programming signal at 112 and

113 to a display device, therefore printer 202 embodies the print hardware, while

the module 100 receives and processes various media)**:**

> **a print drive interface for receiving scheduling preferences
>
> comprising a media program** (System Control Unit 118 contains the control

software, Col. 5 lines 41-49, which launches the GUI interface of Fig. 3 which is
the nucleus for controlling all processes and drivers, Col. 5, lines 50-55. The
EPG data containing the program information and times are received and
processed, Col. 3, lines 26-50. EPG data is structured and presented to the user
on the screen where user preferences are received and processed, Col. 4, lines
39-64);

 **a control module for setting the media receiver to a channel that
includes media program scheduling information** (118 controls tuner 101and
decoding modules);

 **an extraction module for extracting from the channel, scheduling
information associated with the media program** (The scheduling information
is extracted from TS data as disclosed in Col. 3, lines 26- 43);

 **a processing logic for generating a list of scheduled play times of
the media program based on the extracted scheduling information** (Fig. 9,
step 904, a search is performed based on user selected search criteria, Col. 10,
lines 9, 10. Search criteria is any program characteristics as stored/identified in
the EPG, Col. 10, lines 3-9, such as broadcasting/play times/dates), **the list
comprising one or more user selectable** action codes **for each play time of
the media program** (Fig. 7, Col. 8, lines 37-55), **wherein each** action code **is
associated with an action that is performed by the printer responsive to
user selection of the** action code (see Fig. 5, Col. 7, line 19 through Col. 8 line
28 for assignment of action codes based on programs, and Col. 10, lines 26-30.

Col. 10, lines 3- 42 for extracting program information and associating each

program with an action code. Though in this example, action code for playing the

program is discussed, Aratani further discloses that there are various action

codes associated with a program, as shown in Fig. 13, Col. 12, lines 36-46, e.g.

Print, Display, play, etc.);

a print engine for printing the list of scheduled play times of the

media program (202, also Fig. 9, Col. 9 line 53 through Col. 10 line 34. Also,

Fig. 10 shows programs along with their action codes)**; and**

a media transfer interface for permitting communication between the

printer and the media receiver, the media transfer interface being coupled

to the media receiver (data is exchanged via I/F 122 and bus connecting

components 122, 118, 123, etc..

Aratani discloses an "action code" <u>uniquely</u> identifying a channel number;

program ID, along with times etc. (Col. 6, line 30, through Col. 7, line 18).

Aratani does not disclose a **barcode.**

However, Hoda discloses associating unique numbers with **barcodes** to identify

and effectuating specific actions associated with each designated program, e.g.

play, pause, Fig. 2, Col. 5, lines 9-26, and Col. 6, line 57 through Col. 7 line 45.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify numerical "action codes" of Aratani with Hoda's barcodes in order to use a globally accepted and recognizable identification system for unique actions/content.

7.2. Regarding claim 20, Aratani discloses **In a computer system comprising a media receiver in communication with a printer a method** (Abstract, Fig. 1) **for generating media representations of a collection of media programs at the printer, the method performed by the printer and comprising** (it is noted that Aratani discloses a data processing apparatus with multiple functions, a television with printer capabilities, or a printer with ability to provide programming signal at 112 and 113 to a display device, therefore printer 202 embodies the print hardware, while the module 100 receives and processes various media)**:**

receiving scheduling preferences comprising a media program (System Control Unit 118 contains the control software, Col. 5 lines 41-49, which launches the GUI interface of Fig. 3 which is the nucleus for controlling all processes and drivers, Col. 5, lines 50-55. The EPG data containing the program information and times are received and processed, Col. 3, lines 26-50. EPG data is structured and presented to the user on the screen where user preferences are received and processed, Col. 4, lines 39-64)**;**

setting the media receiver to a channel that includes media program scheduling information (118 controls tuner 101and decoding modules);

extraction from the channel, scheduling information associated with the media program (The scheduling information is extracted from TS data as disclosed in Col. 3, lines 26- 43**); and**

generating a list of scheduled play times of the media program based on the extracted scheduling information (Fig. 9, step 904, a search is performed based on user selected search criteria, Col. 10, lines 9, 10. Search criteria is any program characteristics as stored/identified in the EPG, Col. 10, lines 3-9, such as broadcasting/play times/dates) **, the list comprising one or more user selectable** action codes **for each play time of the media program** (Fig. 7, Col. 8, lines 37-55**), wherein each** action code **is associated with an action that is performed by the printer responsive to user selection of the** action code (see Fig. 5, Col. 7, line 19 through Col. 8 line 28 for assignment of action codes based on programs, and Col. 10, lines 26-30. Col. 10, lines 3- 42 for extracting program information and associating each program with an action code. Though in this example, action code for playing the program is discussed, Aratani further discloses that there are various action codes associated with a program, as shown in Fig. 13, Col. 12, lines 36-46, e.g. Print, Display, play, etc.);**and**

printing the list of scheduled play times of the media program (202, also Fig. 9, Col. 9 line 53 through Col. 10 line 34. Also, Fig. 10 shows programs along with their action codes**).**

Aratani discloses an "action code" <u>uniquely</u> identifying a channel number; program ID, along with times etc. (Col. 6, line 30, through Col. 7, line 18). Aratani does not disclose a **barcode.**

However, Hoda discloses associating unique numbers with **barcodes** to identify and effectuating specific actions associated with each designated program, e.g. play, pause, Fig. 2, Col. 5, lines 9-26, and Col. 6, line 57 through Col. 7 line 45.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify numerical "action codes" of Aratani with Hoda's barcodes in order to use a globally accepted and recognizable identification system for unique actions/content.

8. Claims 2- 19, and 21- 39 are rejected under 35 U.S.C. 103(a) as being unpatentable

over S. Aratani in view of Hoda, in further view of S.M. Hoffberg et al., USPN

6,400,996 (hereinafter "Hoffberg").

8.1. Regarding claims 2, the system of Aratani and Hoda does not disclose **media
content recognition software for recognizing features in media content**.

However, Hoffberg discloses **media content recognition software for
recognition features in media content** (Col. 100, lines 53- 67; Col. 101, lines
1- 67; Col. 102, lines 1- 19).

Therefore, it would have been obvious to one of ordinary skill in the art, at the
time of invention, to modify the system of Aratani and Hoda with Hoffberg's
invention in order to automatically recognize features of interest to the viewer and
bring such programs to users attention to reduce clutter and complexity of
programming.

8.2. Regarding claim 3, the system of Aratani and Hoda and Hoffberg discloses
**wherein the media content recognition software further comprises speech
recognition software**, (Hoffberg: Col. 102, lines 14- 19).

8.3. Regarding claim 4, the system of Aratani and Hoda and Hoffberg discloses

wherein the media content recognition software further comprises optical

character recognition software, (Col. 107, lines 59- 64).

8.4. Regarding claim 5, the system of Aratani and Hoda and Hoffberg discloses

wherein the media content recognition software further comprises face

detection software, (Col. 102, lines 14- 19).

8.5. Regarding claim 6, the system of Aratani and Hoda and Hoffberg discloses

wherein the media content recognition software further comprises speaker

detection software, (Col. 102, lines 14- 19).

8.6. Regarding claim 7, the system of Aratani and Hoda and Hoffberg discloses

wherein the media content recognition software further comprises

keyframe selection software, keyframe is the same as I-frames in MPEG

coding. Hoffberg discloses content recognition for MPEG coded content (Col.

103, lines 7-18).

8.7. Regarding claim 8, the system of Aratani and Hoda and Hoffberg discloses **wherein the media content recognition software further comprises face recognition software,** (Col. 102, lines 14-19).

8.8. Regarding claim 9, **processing logic for controlling display of a user interface, wherein the user interface permits the user to control actions of the output printer,** (Aratani discloses that the user through 116 and display unit controls the actions, such as printing of the desired schedules as shown in Figs. 9 and 10; Col. 9, line 53 through Col. 10, line 42).

8.9. Regarding claims 11, **a storage medium for storing list of scheduled play times of media programs in electronic format** (Aratani: 123, Col. 3. lines 43-49)

8.10.　　　Claim 12 is rejected as claim 11.

8.11.   Regarding claim 13, **one or more user interaction devices that permit
the user to interact with the printer and control the printer's actions,
wherein the user interaction devices are external to the printer**, (Aratani:
remote control 116).

8.12.   Regarding claim 14, **wherein the list of scheduled play times of the
media program is generated in paper format that includes at least one
user-selectable identifier allowing a user to access and control media
content**, Aratani Fig. 10 shows the print out which includes program names and
unique action codes (identifier) selectable by user.

8.13.   Regarding claims 16-18, the system of Aratani and Hoda and Hoffberg
discloses that there are unique identifiers, for each program, that the user can
manually input (Aratani: Col. 8, lines 19-22; Hoffberg: Col. 79, lines 33- 41), or
choose to print on paper in machine readable forms, such as barcode (Hoda,
Fig. 2, 18). These identifiers can also be used to instruct the output device to
selectively identify, record, or display the program (Hoda: Fig. 2, 18d and
Hoffberg: Col. 79, lines 38-41).

8.14.   Regarding claims 21, the system of Aratani and Hoda does not disclose
recognizing media content extracted from the media receiver.

However, Hoffberg discloses **recognizing media content extracted from the
media receiver** (Col. 100, lines 53- 67; Col. 101, lines 1- 67; Col. 102, lines 1-
19).

Therefore, it would have been obvious to one of ordinary skill in the art, at the
time of invention, to modify the system of Aratani and Hoda with Hoffberg's
invention in order to automatically recognize features of interest to the viewer and
bring such programs to users attention to reduce clutter and complexity of
programming.

8.15.   Regarding claim 22, **sending commands to the media receiver to
control actions of the media receiver**, Aratani's remote control 116 controls
the functions of the receiver through operation unit 114 (Col. 3, lines 26- 33).

8.16.   Regarding claims 23, **scheduling actions of the media receiver to
occur at predefined times**, Aratani's action codes are unique and correspond

to program names, channels, and offering time as reflected in the EPG (col. 6, lines 30- 55), which contain programs within a time period between now and future, usually two weeks, therefore the media receiver schedules the program at predefined times by the user.

8.17.   Regarding claim 24, **wherein the scheduling preference further comprise user-defined time periods that the list of schedule play times is generated**, Aratani, Fig. 10, the action code signifies a channel, program name and time. Action codes are unique and correspond to program names, channels, and offering time as reflected in the EPG (col. 6, lines 30- 55).

8.18.   Regarding claim 25, the system of Aratani and Hoda does not disclose **wherein the scheduling preferences are entered into a profile that controls actions of the printer which controls actions of the media receiver**.

However, Hoffberg discloses "intelligent selection" whereby the actions of the user are recorded and profiled so as to present the user with options that may closely match user's desires/ habits thereby controlling the actions of the media server and the attached printer (Col. 111,lines 1- 25).

Therefore, it would have been obvious to one of ordinary skill in the art, at the

time of invention, to modify the system of Aratani and Hoda with Hoffberg's

invention in order to anticipate and custom tailor program presentations to user's

habits/ desires.

8.19.   Regarding claim 26, **wherein the list of scheduled play times of the**

media program includes specific information about the media program,

Aratani Fig. 10, shows channels, program names, web addresses, etc.

8.20.   Regarding claim 27, the system of Aratani and Hoda does not disclose

wherein generating a list of scheduled play times of the media program

further comprises formatting the list based on a pre- defined user

preferences profile.

However, Hoffberg discloses **wherein generating a list of scheduled play**

times of the media program further comprises formatting the list based on

a pre- defined user preferences profile. (Col. 113, line 47 through Col. 114 line

46)

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the system of Aratani and Hoda with Hoffberg's invention in order to anticipate and custom tailor program presentations to user's habits/ desires.

8.21.   Regarding claim 28, the system of Aratani and Hoda is not explicit on **updating the generated list of scheduled play times of the media program to include current schedule information associated with the media program**.

However, Hoffberg discloses **updating the generated list of scheduled play times of the media program to include current schedule information associated with the media program.** (Col. 111, lines 26-54)

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the system of Aratani and Hoda with Hoffberg's invention in order to ensure currency of the schedule based on newly available data.

8.22.   Regarding claim 29, the system of Aratani and Hoda does not disclose

wherein generating a list of scheduled play times of the media program

further comprises:

performing optical character recognition on the channel that

includes media program scheduling information to read schedule

information content and generate a representation of the schedule

information content.

However, Hoffberg discloses extracting content features (time, program, channel

No.) from the program/ media and matching them to template databases, EPG

Grid, (Col. 101, lines 6-8). The content features are recognized using optical

character recognition (Col. 107, lines 59+). Ability to manipulate program

schedules (tables) ahs been disclosed in Col. 111, lines 26- 54. Furthermore,

Hoffberg discloses scanning paper copy (hard copy printed database) schedules

and manipulating them the same.

Therefore, it would have been obvious to one of ordinary skill in the art, at the

time of invention, to modify the system of Aratani and Hoda with Hoffberg's

invention in order to interpret non-digital program channels containing program

schedules.

8.23.   Regarding claim 30, the system of Aratani and Hoda does not disclose
**searching for specific user-defined features within the media content and
displaying search results**.

However, Hoffberg discloses **searching for specific user-defined features
within the media content and displaying search results** (Col. 100, lines 3-
36)

Therefore, it would have been obvious to one of ordinary skill in the art, at the
time of invention, to modify the system of Aratani and Hoda with Hoffberg's
invention in order to anticipate and custom tailor program presentations to user's
habits/ desires.

8.24.   Regarding claim 31, Aratani discloses **monitoring commands from an
external interface** (116), **wherein the commands include a request to
generate the list of scheduled play times of the media program.** The syatem
of Aratani and Hoda is not explicit on **wherein the request includes user-
defined parameters**.

However, Hoffberg presents a menu driven user interface in which user enters

information desired (Col. 2, lines 22- 65; Col. 79, lines 33- 51)

Therefore, it would have been obvious to one of ordinary skill in the art, at the

time of invention, to modify the system of Aratani and Hoda with Hoffberg's

invention in order to provide the user with convenience of entering the features

they are most interested in.

8.25.   Regarding Claim 32, the updating of databases (schedules, barcodes,

user profiles, etc.) was analyzed in claim 28 for automated updates. Examiner

takes official notice that manual updates via a user device, on command, is well

known in the industry, as it further offers the user a level of control and

customization in line with Hoffberg's teachings.

8.26.   Regarding claim 33, Aratani discloses **recording media content and**

storing the media content on a storage medium (all content is stored at 123)**,**

wherein the stored media content can be played in response to commands

received from an external device interface (A command from remote control

116 identifying a program shown in Fig. 10 will launch that program).

8.27.   Regarding claim 34, the system of Aratani and Hoda does not disclose **a web server with a common gateway interface for controlling the schedule for recording and playing of media content**.

However, Hoffberg discloses a web server with a common gateway interface for controlling the schedule for recording and playing of media content, see Col. 147, Example 30, where an Intelligent Internet Appliance provides the interface for user commands (gateway).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the system of Aratani and Hoda with Hoffberg's invention in order to provide the user with convenience of using the web as an additional remote control option.

8.28.   Regarding claim 36, the system of Aratani, Hoda, and Hoffberg discloses **receiving a selection of a barcode that causes the printer to perform an action of recording a media program associated with the barcode**. In system of Aratani and Hoffberg the codes in Fig. 10 of Aratani represent Hoffberg's barcodes; therefore selection of any such programs will trigger their recording via AV/C controls through Aratani's VTR 201 (Col. 5, lines 5- 9).

8.29.   Regarding claim 37, the system of Aratani, Hoda, and Hoffberg discloses

receiving a selection of a barcode that causes the printer to play, on a

display device, a media program associated with the barcode. In system of

Aratani and Hoffberg the codes in Fig. 10 of Aratani represent Hoffberg's

barcodes; therefore selection of any such programs will trigger their display

through Aratani's 112 and 113.

8.30.   Claim 38, updating of databases and associated data, is rejected by the

same analysis as claim 28.

8.31.   Regarding claim 39, the system of Aratani and Hoda does not disclose

further comprising advancing the media program scheduling information,

wherein advancing the media program scheduling information comprises:

capturing a first frame of a current display of the media program

scheduling information on the channel;

sending a command to the media receiver to advance the current

display of the media program scheduling information on the channel;

capturing a second frame of the advanced display of the media

program scheduling information on the channel; and

comparing the first frame to the second frame to determine if the scheduling information has changed and to determine if the display of the media program scheduling information should be advanced

Hoffberg disclose updating the database of program schedules and information (Col. 111, lines 26-54). Hoffberg further discloses using OCR technology to scrape analog programs (on screen or in news papers, Col. 111, lines 44- 54) in order to identify future and imminent program. Hoffberg discloses controlling the causation of an action on the occurrence of an event (Col. 69, lines 20-51), namely advancing to the next frame as feature extractor (Fig. 22, 2204) extract newly changed data in each frame.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of invention, to modify the system of Aratani with Hoffberg's invention, in order to be able to sense changes in programming changes in painted guides (non digital).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in
this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP
§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37
CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE
MONTHS from the mailing date of this action. In the event a first reply is filed within
TWO MONTHS of the mailing date of this final action and the advisory action is not
mailed until after the end of the THREE-MONTH shortened statutory period, then the
shortened statutory period will expire on the date the advisory action is mailed, and any
extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of
the advisory action. In no event, however, will the statutory period for reply expire later
than SIX MONTHS from the date of this final action.

Contacts

Any inquiry concerning this communication or earlier communications from the
examiner should be directed to JAMES R. MARANDI whose telephone number is
(571)270-1843. The examiner can normally be reached on 8:00 AM- 5:00 PM M-F,
EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John W. Miller can be reached on (571) 272-7353. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John W. Miller/
Supervisory Patent Examiner, Art Unit 2421

/James R. Marandi/
Examiner, Art Unit 2421